

### Remarks

Claims 1-11 and 13-20 are pending for the Examiner's consideration, including amended claims 1, 5, 8, 13, 17, and 18 and new claims 19-20. Claim 12 has been canceled. No new matter is believed to have been added.

### Species Election

The Office Action states that "[t]here are three alternative swirl generator configurations as shown respectively in Figures 2, 6, and 7, and there are also four alternative fuel injector arrangements as shown respectively in Figures 5a, 5b, 5c, and 5d." (Office Action, page 2, lines 4-6). The Office Action states that Applicants are required to select one of the alternative swirl generator configurations and one of the alternative injector arrangements, and "the combination comprising the selected swirl generator and the selected injector arrangement will constitute the elected species." (Office Action, page 2, lines 9-11).

In response to the election requirement, Applicants provisionally elect the swirl generator configuration of Fig. 2 and the fuel injector arrangement of Fig. 5a for prosecution in this application, with the understanding that the claims shall be so restricted only if no claim that is generic to other species is finally held to be allowable. Applicants reserve the right to file divisional applications to protect the inventions of the other species in the application. It is believed that pending claims 1-3, 5-11, and 13-20 are readable on the elected species.

*Traversal with respect to Figures 2, 6, and 7.* With respect to the required species election between Figures 2, 6, and 7, Applicants traverse this requirement to the extent that Applicants believe the classifications of the inventions in Figures 2, 6, and 7 are the same and the field of search is the same. Thus, Applicants believe that dividing among these species is improper. See M.P.E.P. § 808.02. As such, Applicants believe that the alleged "species" of Figures 2, 6, and 7 should all be prosecuted in the present application.

The Office Action completely fails to identify what features distinguish the alleged "alternative swirl generator configurations" in Figures 2, 6, and 7 so as to require a species election. According to M.P.E.P. § 803, "Examiners must provide reasons and/or examples to support conclusions" for restriction requirements. The Office Action fails to provide any explanation of separate classification, or separate status in the art, or a different field of search for the alleged species of Figures 2, 6, and 7. See, e.g., M.P.E.P. § 803.

Applicants submit that there should *not* be any election requirement, for example, because of similarities in the disclosures in the present application related to each of Figures 2, 6, and 7:

- (1) concerning FIG. 2, "outlet openings 18 for the synthesis gas are formed at the combustion chamber-side end of this gas feed element 2" (*see, e.g.,* specification, page 9, lines 10-11);
- (2) concerning FIG. 6, "[i]n this case too, the outlet openings 18 for the synthesis gas are arranged distributed around the burner axis 25 at the combustion chamber-side end of the swirl space 11." (*see, e.g.,* specification, page 11, lines 30-32); and
- (3) concerning FIG. 7, "[i]n this burner too, the outlet openings 18 for the synthesis gas are arranged distributed around the burner axis 25 at the combustion chamber-side end of the inner volume 11 and are supplied with synthesis gas via the fuel feed passages 19" (*see, e.g.,* specification, page 12, lines 12-14).

Applicants want to clearly indicate on the record that, at the least, the pending claims should *not* be restricted to either Figures 2, 6, and 7, as the Office Action has not set forth proper grounds for a species restriction. Thus, Applicants traverse the election requirement with respect to Figures 2, 6, and 7.

*Traversal with respect to Figures 5a, 5b, 5c, and 5d.* With respect to the required species election between Figures 5a, 5b, 5c, and 5d, Applicants traverse this requirement to the extent that Applicants believe the classifications of the inventions in Figures 5a, 5b, 5c, and 5d are the same and the field of search is the same. Thus, Applicants believe that dividing among these species is improper. *See* M.P.E.P. § 808.02. As such, Applicants believe that the alleged "species" of Figures 5a, 5b, 5c, and 5d should all be prosecuted in the present application.

The Office Action completely fails to identify what features distinguish the alleged "alternative fuel injector arrangements" in Figures 5a, 5b, 5c, and 5d so as to require a species election. M.P.E.P. § 803 states that "Examiners must provide reasons and/or examples to support conclusions" for restriction requirements. The Office Action fails to provide any explanation of separate classification, or separate status in the art, or a different field of search for the alleged species of Figures 5a, 5b, 5c, and 5d. *See, e.g.,* M.P.E.P. § 803.

Applicants submit that there should *not* be any election requirement directed to whether (1) the individual outlet openings 18 intersect one another at an intersection point 21 on the burner axis (FIG. 5a), or (2) the outlet openings 18 intersect at different intersection

points 21 which are distributed over the outlet cross section of the burner (FIG. 5b). Nor should there be any election requirement directed to whether (3) the intersection points 21 lie at different distances from the outlet plane of the burner (FIG. 5c), or (4) the intersection points 21 lie at the same distance from the outlet plane of the burner (FIG. 5d).

Applicants want to clearly indicate on the record that, at the least, the pending claims should *not* be restricted to one of Figures 5a, 5b, 5c, and 5d, as the Office Action has not set forth proper grounds for a species restriction. Thus, Applicants traverse the election requirement with respect to Figures 5a, 5b, 5c, and 5d.

*Traversal of election requirement in general.* Moreover, Applicants traverse the species restriction to the extent that the Examiner did not identify any claims that are generic. The Office Action states that "[n]one of the claims appear properly generic to all species." (Office Action, Page 2, line 13). Applicants believe that at least claims 1-2, 5-11, and 13-20 should be identified as generic.

Finally, as stated in M.P.E.P. § 803, "[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." Applicants submit that the search burden is not so great that election should be required with respect to Figures 2, 6, and 7 as well as Figures 5a, 5b, 5c, and 5d. Applicants believe that the alleged species of Figures 2, 6, and 7 as well as Figures 5a, 5b, 5c, and 5d should all be prosecuted in the present application.

Thus, Applicants respectfully request the Examiner to reconsider and vacate the election requirement. If necessary, Applicants respectfully request a personal or telephonic interview to discuss any remaining issues concerning the election requirement.

#### **Claim Rejections**

In the Office Action, claims 1-18 were rejected under 35 U.S.C. § 112, first and/or second paragraphs. The rejection respectfully is overcome.

The Office Action states that "[t]he claims all describe a swirl generating unit as 'surrounding an internal burner space'" and further states that "[i]t is not seen how the cited language corresponds to the disclosed embodiments of the invention." (Office Action, page 3, lines 8-11). In response, independent claims 1 and 18 have been amended to recite, *inter alia*, "swirl space."

In addition, the Office Action states that language in claims 5 and 17 "does not constitute a proper product-by-process limitation." Claim 5 has been amended to recite that "the swirl generator and the at least one first fuel feed are formed of the same material and

are coupled together." Claim 17 has been amended to recite that "the swirl generator and the at least one first fuel feed are castings of the same material and are coupled together."

With respect to claim 13 and the recitation of a "swirl grating," the Office Action states that "[t]he present disclosure thus does not support use of the fuel outlet location of claim 1 in combination with the species of Figure 7." (Office Action, page 4, lines 13-15). Claim 13 has been amended to recite that "the at least one combustion-air inlet opening comprises tangential inlet slots." Support may be found, for example, in the specification at page 8, lines 15-17 and lines 21-22.

Claim 12 has been canceled.

Thus, it is believed that the rejection in the Office Action under 35 U.S.C. § 112, first and/or second paragraphs has been overcome.

In the Office Action, claims 1, 2, 14, 16 and 18 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,150,570 to Shekleton ("Shekleton"). The rejection respectfully is overcome.

Independent claim 1, as amended, is directed to a burner comprising a swirl generator unit and means for introducing fuel into a combustion air stream, the swirl generator unit comprising a swirl generator having at least one combustion-air inlet opening for the combustion air stream, and surrounding an internal swirl space, and the means for introducing fuel comprising at least one first fuel feed having a group of first fuel outlet openings arranged radially outside the swirl generator unit proximate an exit of the swirl space, wherein the swirl generator unit, at a combustion chamber-side end, has at least one inlet opening that at least partially surrounds periphery of the swirl generator unit, and wherein the fuel outlet openings in the region of the inlet opening are arranged radially outside the swirl generator unit so that fuel communicates with the internal swirl space through the inlet opening.

Independent claim 18, as amended, is directed to a gas turbine comprising: at least one burner comprising a swirl generator unit and means for introducing fuel into a combustion air stream, the swirl generator unit comprising a swirl generator having at least one combustion-air inlet opening for the combustion air stream, and surrounding an internal swirl space, and the means for introducing fuel comprising at least one first fuel feed having a group of first fuel outlet openings arranged radially outside the swirl generator unit proximate an exit of the swirl space, wherein the swirl generator unit, at a combustion chamber-side end, has at least one inlet opening that at least partially surrounds periphery of the swirl generator unit, and wherein the fuel outlet openings in the region of the inlet opening are

arranged radially outside the swirl generator unit so that fuel communicates with the internal swirl space through the inlet opening.


With respect to Shekleton, the Office Action states that "wall 50 in conjunction with angled tubes 70 and/or 72 constitutes a swirl generator which surrounds combustor or burner space 74" and "apertures 88 correspond to the claimed fuel outlet openings radially outside the swirl generator." (Office Action, page 5, lines 7-11). Apertures 88 in Shekleton direct a stream of fuel into space 74. (Shekleton, Col. 4, lines 21-23, 40-42). In contrast, independent claims 1 and 18 of the present application each recite, *inter alia*, the means for introducing fuel comprising at least one first fuel feed having a group of first fuel outlet openings arranged radially outside the swirl generator unit proximate an exit of the swirl space. Applicants thus respectfully believe that the rejection over Shekleton has been overcome.

In view of the foregoing, it is believed that all the pending claims are in condition for allowance, which is respectfully requested. If the Examiner does not agree, then a personal or telephonic interview is respectfully requested to discuss any remaining issues so as to expedite the eventual allowance of the claims.

A Petition for Extension of Time is submitted concurrently herewith. Should any additional fees be required, please charge such fees to Steptoe & Johnson LLP Deposit Account No. 19-4293.

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Respectfully Submitted,

  
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Enclosures